

ABSTRACT OF THE DISCLOSURE

A wind or ocean turbine has an input-power shaft-mounted, rotating bull-gear with smaller stationary pinion-driven powertrains including generators mounted around the periphery of the bull-gear. A controller regulates torque experienced by each powertrain to balance torque between generators at any system load. Regulation includes controlling local voltage at each generator by a transformer configured as a reactor. Coils of the transformers are wired in parallel and actively modulated with an SCR, solid-state, switching device. Each generator output is connected to a respective primary coil of a transformer and a respective secondary coil is connected to an SCR. By using pulse width modulation, the SCR is gated on and off for a portion of a 60 Hz cycle. By adjusting the duty cycle of SCR gating, any voltage between 80% and 100% is attained to satisfy immediate torque requirements.